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ABSTRACT

The pattern of changes in locus of control for college persisters and dropouts were examined over a three-year period, and differences between males and females were considered. Data on 6,608 students enrolled in four-year U.S. colleges were collected in 1973, 1974, and 1975. A repeated measures analysis of locus of control composite scores yielded significant results over time, and two of the three analyses of variance revealed significant main effects for sex and college status. The results indicate that both students completing undergraduate training and students dropping out of their programs because more internal over time. While persisters were significantly more internally controlled than dropouts in the early stages of the students' college careers, these differences became quite small by the senior year. This pattern may indicate that dropouts suffer a feeling of being out of control immediately after their departure from college, but that these feelings dissipate over time. The results further indicate that females were more internally controlled than males regardless of college status. This finding implies that females may feel more responsible for academic success and failure than do males. (SW)

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A LONGITUDINAL STUDY OF LOCUS OF CONTROL FOR MALE AND FEMALE PERSISTERS AND DROPOUTS IN FOUR YEAR COLLEGES

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A Longitudinal Study of Locus of Control
for Male and Female Persisters and Dropouts in
Four Year Colleges

Achieving a better understanding of the factors that affect an individual's decision to complete a college career has long been of interest to students and college administrators. A considerable amount of attention has been given to the study of students' characteristics and their eventual success or failure at completing college (Prociuk, Breen and Lawrence, 1974; Behuniak and Gable, 1981). One variable that has been consistently found to be related to college success is locus of control (LOC). This is defined as an individual's perception of his ability to control himself, his environment, and his fate (Rotter, 1966).

The relationship of LOC and college performance has been established by a number of studies (Otten, 1977; Allen, 1974). Two recent developments have heightened the need for further work in this area. First, researchers have found the relationship of LOC and performance to be quite situation specific (Behuniak and Gable, 1981). That is, findings indicate that the exact nature of the relationship seems to change for different populations in different circumstances. Second, attribution theorists have proposed some new ways in which LOC could be a significant component in explaining student performance (Nord, 1974). Locus of control also appears to differ for males and females in academic settings. A number of studies have shown that females tend to be more internal (Crandall, 1969; Keller and Pugh, 1976).

This study has two purposes. The first is to examine the pattern of changes in locus of control over a three year period for male and female colege persisters and dropouts. Persisters are defined as those students who attend a four year college and receive a degree. Dropouts are those students who leave college and do not return. This analysis is intended to provide an understanding of the changing relationships between LOC and student completion or withdrawal from college.

The second purpose is to determine if LOC differs between males and females and between persisters and dropouts for each year in which LOC was measured. These analyses are intended to provide more extensive information concerning how LOC relates to college status and sex at three points in each student's college career.

Instrumentation and Sample

A sample of 6,608 students enrolled in four year academic colleges in the fall of 1972 was selected from a total of over 20,000 students available in the National Longitudinal Study (NLS) of the Class of 1972 data set. The data used in this study were collected in the fall of 1973, 1974 and 1976.

The LOC measure was a composite of four items which were repeated on each survey. These items had Likert response formats ranging from 1 (strongly agree) to 5 (strongly disagree) with higher scores on the LOC composite (the average of all items) indicating internal control. The previously reported reliability (coefficient alpha) of the LOC measure was judged acceptable in the .50 to .60 range (Conger, Peng and Dunteman,

1977; Behuniak and Gable, 1981).

Analysis

The research hypotheses were examined by using two types of analyses. A Lindquist Type III repeated measures analysis of variance was used to examine the trend of locus of control over time. The LOC composite scores for 1973, 1974 and 1976 were used as the dependent variables. The independent variables were sex and student status in college. The variable student status was comprised of student dropouts classified according to the year they left college. That is, group 1 consisted of college persisters, group 2 included those students who dropped out in 1973, group 3 included students who dropped out by 1974 (but not before 1973), and group 4 included those students who dropped out by 1976 (but not before 1974).

Three two way analyses of variance were performed to examine the differences in LOC for male and female persisters and dropouts for each year. The analyses used sex and college status (persisters/dropouts) as dichotomous independent variables and the LOC composites as the dependent variables. The three analyses were based on student status in each of the years for which data was available. As a result, those students identified as persisters in the first analysis were identified as dropouts in the later analyses if they withdrew from college after 1973.

Results

The repeated measures analysis of LOC composite scores yielded significant results over time ($F=9.03$, $p< .001$). There were no significant differences

for student status or sex (see Table 1). A Tukey post hoc test for repeated measures (Winer, 1971) revealed that the significant difference over time was attributable to the mean LOC score in 1976 (X = 4.11) when compared to the LOC scores in 1973 (X = 4.02) and 1974 (X = 4.02). The post hoc analysis indicated that the 1976 mean was significantly more internal (p .001) while the 1973 and 1974 means did not differ .

Insert Table 1 here

Two of the three analyses of variance revealed significant main effects for sex and college status (see Table 2). The largest differences occurred for the 1973 data, where females were more internal than males (F = 15.6, p .001) and persisters were more internal than males (F = 23.17, p .001). Similar results were found in the 1974 analysis where females were again found to be more internal than males (F = 10.24, p .01) and persisters were more internal than dropouts (F = 9.86, p .01). While this same pattern was present in the 1976 analysis, the differences were too small to be judged significant.

Insert Table 2 here

The mean LOC composite scores corresponding to these analyses are presented in Tables 3 and 4[1]. An examination of these means not only provides for a more complete understanding of the findings reported in the previous analyses, but also reveal several interesting patterns. For example, it is evident from an inspection of the cell means presented in both

tables that the trend towards internality over time was true for students of both sexes and in most categories of college status. Thus, Table 3 indicates that not only did male persisters become increasingly internal, with LOC means of 3.99 (1973), 4.02 (1974), and 4.14 (1976), but that the same pattern was evident for male dropouts, who had means of 3.90 (1973), 3.95 (1974), and 4.11 (1976).

Insert Tables 3 and 4 here

Discussion

The most apparent trend in the data was the tendency for students to become more internal with time. This was not unexpected for the persisters, since the successful completion of a college career had previously been found to be related to an increasingly internal locus of control (Behuniak and Gable, 1981). However, it was surprising to find that so many of the students who dropped out of college also become more internal over time. As the means in Tables 3 and 4 indicate, this tendency existed for students in most of the dropout groups examined. In fact, several dropout groups exhibited larger changes than did the persisters. For example, Tables 3 shows that while all persisters (males and females) averaged 4.08 in 1973 and 4.14 in 1976 for a change of .06, the students who dropped out in 1973 averaged 3.96 in 1973 and 4.07 in 1975 for a change of .11.

One exception to this trend occurred for the female students that dropped out in 1974. Table 3 indicates that these students initially became more

external, changing from 4.05 in 1973 to 4.01 in 1974, before bouncing back to 4.09 in 1976. This pattern was also followed by male students who dropped out during 1974. This pattern has at least two explanations. First, it may indicate that the tendency of some students to become more external was related to their decision to drop out of school. If this were true, LOC scores would need to be monitored more frequently (than once each year) if the relationship is to be understood fully. A second possibility is that the pattern identified was specific to events occurring in 1974. Although there is no way to examine this effect with the data available, further research on data collected at different times would prove helpful in testing the feasibility of this hypothesis.

Females were generally found to be more internal than males. This was supported by the significant main effects in the analyses of variance for 1973 and 1974 (Table 2), and by an inspection of the related means (Tables 3 and 4). In fact, Table 4 reveals that even in 1976, the year in which there was no significant sex effect, the female persisters were slightly more internal ($\bar{X}$ = 4.16) than the male persisters ($\bar{X}$ = 4.14). Thus, these results confirm and extend earlier findings by demonstrating that females tend to be more internal than males whether they remain in college or not.

The results of the study also indicated that persisters tended to be more internal than dropouts. Again, this finding is supported by significant main effects in the analyses of variance for 1973 and 1974 (Table 2), as well as by an inspection of the mean LOC composite scores presented in Tables 3 and 4. The strength of this pattern can be seen in the fact that only one instance existed in which a dropout group was more internal

than the persisters in the same year; that is, the male students who dropped out in 1976 were slightly more internal (X = 4.08) than were the persisters (X = 4.05) on the 1973 LOC scores. It should also be noted that the smaller differences between persisters and dropouts in 1975 can be attributed to the larger changes over time in LOC scores for the dropouts; that is, the dropouts became internal at a faster rate than did the persisters.

Conclusions and Implications

This study found that both students completeing undergraduate training and students dropping out of their programs became more internal over time. While previous research has indicated that this result could be expected for persisters, it was surprising that the same relationship held for the student dropouts as well.

It was also apparent that while persisters were significantly more internally controlled than dropouts in the early stages of the students' college careers, these differences became quite small by the senior year. This pattern indicates that dropouts may suffer a feeling of being out of control immediately after their departure from college, but that these feelings dissipate over time.

The results of the study further indicated that females were more internally comtrolled than males regardless of college status. This finding implies that females may feel more responsible for academic success and failure than do males. Establishing the reasons for this occurrence will need to be the subject of further study.

The role of a student's locus of control in relation to progress in college appears to be multidimensional. While there is evidence that future research should consider LOC separately for males and females, there are still many unanswered questions concerning the effect of a student's perception of the degree to which he or she controls that student's destiny. Future studies should examine LOC in relation to other pertinent student traits. If it is true that LOC is a complex trait that interacts with other student characteristics, then progress in understanding the nature of an individual's feelings of control may well rest upon our success at identifying the interrelated factors.

Table 1
Lindquist Type III Repeated Measures Analysis of Locus of Control
For Male and Female College Persisters and Dropouts from 1973 to 1976.[a]

SOURCE	Sum Of Squares	df	Mean Squares	F
Status	2.862	3	0.954	1.540
Sex	0.110	1	0.110	0.177
Status X Sex	0.499	3	0.166	0.268
Error Between	912.481	1473	0.619	
Time	3.440	2	1.720	9.030***
Status X Time	0.777	6	0.130	0.680
Sex X Time	0.034	2	0.017	0.089
Status X Sex X Time	0.818	6	0.136	0.716
Error Within	561.099	2946	0.190	
Total	1482.119	4442	0.334	

*** $p < .001$

[a] Dropouts were classified according to the year they left school.

Table 2

Analyses of Variance for Male and Female
College Persisters and Dropouts Dring 1973, 1974 and 1976

YEAR	SOURCE	Sum Of Squares	df	Mean Squares	F	
1973	Sex	7.747	1	7.747	23.169	***
	Status	2.640	1	2.640	7.894	**
	Sex X Status	0.087	1	0.087	0.261	
	Within	1128.867	3376	0.334		
	Total	1139.393	3379	0.337		
1974	Sex	3.536	1	3.536	9.856	**
	Status	3.646	1	3.646	10.163	**
	Sex X Status	0.396	1	0.396	1.104	
	Within	936.689	2611	0.359		
	Total	944.433	2614	0.361		
1976	Sex	0.150	1	0.150	.439	
	Status	0.605	1	0.605	1.769	
	Sex X Status	0.055	1	0.055	0.161	
	Within	633.547	1852			
	Total	634.385	1855			

** p<.01 *** p<.001

Table 3

Locus of Control Composite Means Corresponding To The Repeated Measures Analysis of Variance[a]

Sex	College Status	LOC Cell Mean 1973	1974	1976	3 Year LOC Average
MALE	persisters	4.05	4.07	4.13	4.08
	1973 dropouts	3.95	4.02	4.05	4.01
	1974 dropouts	3.98	4.00	4.12	4.03
	1976 dropouts	4.08	3.95	4.11	4.05
	combined	4.01	4.01	4.11	4.04
FEMALE	persisters	4.12	4.15	4.16	4.14
	1973 dropouts	3.97	3.99	4.10	4.02
	1974 dropouts	4.05	4.01	4.09	4.05
	1975 dropouts	3.97	3.98	4.10	4.02
	combined	4.03	4.03	4.11	4.06
TOTAL	persisters	4.08	4.11	4.14	4.11
	1973 dropouts	3.96	4.00	4.07	4.01
	1974 dropouts	4.02	4.00	4.11	4.04
	1976 dropouts	4.02	3.97	4.11	4.03
	combined	4.02	4.02	4.11	4.05

[a]The LOC composite scores are based on a 5 point Likert scale in which "1" indicates an external LOC and "5" indictes an internal LOC.

Table 4

Locus of Control Composite Means Corresponding to the Analyses of Variance for 1973, 1974, and 1976[a]

Sex	College Status	LOC Means 1973	1974	1976
MALE	persisters	3.99	4.02	4.14
	dropouts	3.90	3.95	4.11
	combined	3.98	4.00	4.13
FEMALE	persisters	4.08	4.10	4.16
	dropouts	4.02	3.97	4.11
	combined	4.07	4.08	4.15
TOTAL	persisters	4.03	4.06	4.15
	dropouts	3.96	3.96	4.11
	combined	3.98	4.04	4.14

[a]The LOC composite scores are based on a 5 point Likert scale in which "1" indicates an external LOC and "5" indicates an internal LOC.

Footnotes

1 The slight differences between the two tables in mean scores of comparable groups (i.e. male persisters in 1973) is due to variations in the student populations analyzed. The analyses were performed only on those students for whom complete information was available. This altered the sample size considerably between analyses. Even with sample variations, however, the trends discussed above were evident in both tables.

References

Allen, J. Locus of Control, Text Anxiety, and Student Performance in a Personalized Instruction Course. Journal of Educational Psychology, 1974, 66, 968-73.

Behuniak, P., and Gable R. K. A Longitudinal Study of Self-Concept and Locus of Control for Persisters in Six College Majors. Educational Research Quarterly, Spring 1981 (In Press).

Conger, A. S., Peng, S. S. & Dunteman, G.H. National Longitudinal Study of High School Seniors: Group Profiles on Self-Esteem, Locus of Control, and Life Goals. (NCES 77-260: HEW), Washington, D.C., 1977.

Crandall, V.C., Sex Differences in Expectancy of Intellectual and Academic Reinforcement. In C.P. Smith (Ed.) Achievement Related Motives in Children. New York: Russell Sage, 1969. pp. 11-45.

Keller, J.M. and Pugh, R.C. Sex Similarities and Differences in Locus of Control in Relation to Academic Adjustment Measures. Measurement and Evaluation in Guidance, 1976, 9, 110-117.

Nord, W.R. Locus of Control and Aptitude Test Scores as Predictors of Academic Achievement. Journal of Educational Psychology, 1974, 66, 956-61.

Otten, M.W. Inventory and Expressive Measures of Locus of Control and Academic Performance: A 5 - Year Outcome Study. Journal of Personality Assessment, 1977, 41. 644-9.

Prociuk T.J. and Breen L.J. Locus of Control, Study Habits and Attitudes and College Academic Performance. Journal of Psychology, 1974, 88, 91-95.

Rotter, J.B. Generalized Expectancies for Internal Versus External Control of Reinforcement. Psychological Monographs, 1966, 80, No. 1 (Whole No. 609).

Winer, B.J. Statistical Principles in Experimental Design. New York: McGraw-Hill, 1971.